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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/234,490

01/21/1999

KATSUYA IRIE

1082-1027/JD

6014

21171

7590

04/04/2003

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EXAMINER

QUARTERMAN, KEVIN J

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/234,490

Applicant(s)

IRIE ET AL.

Examiner

Kevin Quarterman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 28-57 is/are rejected.
- 7) ☒ Claim(s) 54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Applicant's Amendment D, filed 29 January 2003, has been entered. Since applicant has failed to address the claim objections presented in the previous action, they are repeated in this office action. The Examiner acknowledges Applicant's request for identification of portions of the claims that are deemed to not have patentable weight.

Claim Objections

2. Claim 54 is objected to because of the following informalities: The chemical formulas for the fluorescent substances are written as follows: "BO3 : Eu" for red, "Zn2SiO4" for green, and "BaMgA110017 : Eu" for blue. It appears that the numbers should be written as subscripts for the element symbols. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-9, 28, 30, 34-54, and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claims 2, 9, 35, and 42, the claims state "a light-emission intensity of the first display element is higher than would be necessary to reproduce the whitish

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color to be displayed..." It is unclear what would be necessary to reproduce the whitish color to be displayed.

6. Regarding claims 4 and 37, the claims state "the surface area of the electrodes in the first display element is larger than a surface area that would be necessary to reproduce the whitish color intended for display..." It is unclear what would be necessary to reproduce the whitish color intended for display.

7. Regarding claims 6 and 39, the claims state "the area of the light-emission region of the fluorescent substance comprises a fluorescent substance layer in the first display element that has an area that is larger than what would be necessary to reproduce the whitish color intended for display..." It is unclear what would be necessary to reproduce the whitish color intended for display.

8. Regarding claims 8 and 41, the claims state "the thickness of the dielectric substance layers in said first display element is less than what would be necessary to reproduce the whitish color intended for display..." It is unclear what would be necessary to reproduce the whitish color intended for display.

9. Regarding claims 28 and 34, the claims state "a light-emission intensity of at least one of the fluorescent substances is set to be larger than would be necessary to display an intended white light..." It is unclear what would be necessary to display the white light.

10. Regarding claim 30, the claim states "the color emitted by the first cell is constructed to have an intensity greater than necessary to reproduce, in combination

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with color emitted by the second and third cells, the target light” in lines 1-3 of the claim.

It is unclear what would be necessary to reproduce the target light.

11. Regarding newly added independent claim 56, the claim states “an increased source of the phosphorescent red component emission...” in line 7 of the claim. It is unclear whether there are multiple sources or whether the phosphorescent red component emission is increased.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

13. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

14. Claims 1-3, 5, 7, 10-20, 28-29, 31-36, 38, 40, 43-53, and 56-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueoka (USPN 6034474).

15. Regarding independent claim 1, Figure 2 of Ueoka shows a plasma display panel comprising first, second, and third fluorescent substances (8r, 8g, 8b) having different

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emission colors. Figure 2 of Ueoka also shows the plasma display panel comprising filters (3r, 3g, 3b). The Examiner notes that the claimed features of the fluorescent elements being set to emit "first, second, and third component emission with first, second, and third intensities, in combination producing an unfiltered first color that is warmer than a whitish second color..." are functional characteristics that are inherently possessed by the fluorescent elements of Ueoka, since there is no structural difference in the claim from the prior art shown. The same reasoning applies to the claimed features of the first fluorescent element "producing an intensity of the first color..." and the filter "adjusting the warmer first color to the whitish second color by selectively attenuating to a visually insignificant level light..."

16. Regarding claims 2 and 35, Figure 2 of Ueoka shows a structural dimension of the first display element corresponding to the first fluorescent substance is different from structural dimensions of second and third display elements corresponding to the second and third fluorescent substance. The claimed feature of the filter "selectively attenuating the light emitted by the first element..." is a functional characteristic that is inherently possessed by the filter of Ueoka, since there is no structural difference in the claims from the prior art shown.

17. Regarding claims 3, 5, 7, 36, 38, and 40, Figure 2 of Ueoka shows the display panel comprising a pair of electrodes (2, 6) with dielectric substance layers (4, 7) covering the electrodes.

18. Regarding claims 10-15 and 43-48, it has been held that the recitation that an element is capable of performing a function is not a positive limitation but only requires

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the ability to so perform. It does not constitute a limitation in any patentable sense.

Therefore, the filters of Ueoka inherently possess the functional characteristics cited in the claims.

19. Regarding claims 16 and 49, Figure 2 of Ueoka shows a pair of substrates (1, 5) for forming a discharge space and the filter is formed directly on the inner surface of one of the substrates.

20. Regarding claims 17 and 50, Figure 2 of Ueoka shows a discharge space (10) with display elements.

21. Regarding claims 18 and 51, Figure 2 of Ueoka shows a transparent protection plate with the filter disposed on the inner or outer surface of the protection plate.

22. Regarding claims 19-20 and 52-53, Ueoka disclose that the filter is made of a pigment particle (col. 1, ln. 48-50).

23. Regarding independent claim 28, Figure 2 of Ueoka discloses the limitations of independent claim 1, as described earlier, and also shows a plurality of discharge cells (10) formed within a discharge space between a front substrate (1) and a rear substrate (5) with each discharge cell including a discharge gas.

24. Regarding independent claim 29, Figure 2 of Ueoka shows a display apparatus comprising a pixel comprising a first, second, and third cell, as described for independent claims 1 and 28 earlier.

25. Regarding claims 31-33, it has been held that the recitation that an element is capable of performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. Therefore, the

discharge gas, cells, and filter of Ueoka are capable of performing the functions of the claims.

26. Regarding independent claim 34, Figure 2 of Ueoka discloses the limitations of independent claims 1, 28, and 29 described earlier.

27. Regarding newly added independent claims 56-57, Figure 2 of Ueoka discloses all of the structural limitations of the claims, as described earlier for each of the other independent claims.

Claim Rejections - 35 USC § 103

28. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29. Claims 21 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueoka, as applied to claim 1 earlier, in view of Asano (USPN 6008582).

30. Regarding claims 21 and 54, Ueoka disclose the claimed invention but fail to exemplify the fluorescent substance for red is composed of (Y, Gd) BO₃:Eu; the fluorescent substance for green is composed of Zn₂SiO₄:Mn; and the fluorescent substance for blue is composed of BaMgAl₁₀O₁₇.

31. Asano, in the same art of display devices, teach that suitable phosphor substances for red, green, and blue are (Y, Gd)BO₃:Eu, Zn₂SiO₄:Mn, and BaMgAl₁₀O₁₇, respectively (col. 6, ln. 38-46). Asano uses these compositions for emitting light of desired color.

32. Therefore, it would have been obvious to a person having ordinary skill in the art to provide fluorescent substances for red, blue, and green with the compositions taught by Asano in the display device of Ueoka for the purpose of emitting multiple-colored light.

33. Claims 22 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueoka , as applied to claim 1 described earlier, and further in view of Raber (USPN 4803402).

34. Ueoka disclose the claimed invention but fail to exemplify a discharge space filled with a Penning gas composed of neon and xenon.

35. Raber, in the same art of display devices, discloses a Penning mixture of neon doped with argon or xenon (col. 4, ln. 4-44). This Penning mixture is used for emitting light of an electric field near the projected intersection of electrode wires (col. 3, ln. 33-41).

36. Therefore, it would have been obvious to a person having ordinary skill in the art to utilize the Penning mixture as taught by Raber in the gas discharge display device of Ueoka for emitting light onto the display panel.

Response to Arguments

37. Applicant's arguments filed 29 January 2003 have been fully considered but they are not persuasive.

38. In response to applicant's argument that there is nothing wrong with defining part of an invention in functional terms, the Examiner agrees. However, where the structure

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recited in a reference is substantially identical to that of the claims, claimed functions are presumed to be inherent (MPEP § 2112.01). The Examiner also notes that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP § 2114). Applicant submits that clarification of structural characteristics are provided in Amendment D. However, the Examiner only recognizes added functional characteristics to the claims.

39. In response to applicant's argument that the Examiner did not answer the substance of applicant's previous arguments to rejections of the previous office action, the Examiner notes that new grounds of rejection were made in the previous office action, rendering the arguments moot. Applicant submits that the rejections to the independent claims were not changed. The Examiner notes that the rejections to each of the independent claims changed from being obvious under 35 USC § 103 to being anticipated under 35 USC § 102. Applicant also submits that arguments relating to claims 14 and 15 were not answered. The Examiner notes that both claims cite functional characteristics of the filter, which are presumed to be inherent in the prior art as discussed earlier.

40. In response to applicant's argument regarding the rejections under 35 USC § 112, second paragraph, the Examiner notes that an essential purpose of the examination process is to determine whether or not the claims are precise, clear, correct, and unambiguous (MPEP § 2121 (B)). Thus, the rejections under 35 USC § 112, second paragraph, are repeated in this office action, since the scope of the invention cannot be determined from the language of the claims with a reasonable

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degree of certainty. The Examiner also notes that the features of those claims rejected under 35 USC § 112, second paragraph, have been examined, since those features are also part of the functional language, as addressed earlier.

Conclusion

41. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

42. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman
Examiner
Art Unit 2879

kq 
March 26, 2003



Vip Patel
Primary Examiner
Art Unit 2879